



TENNESSEE DEPARTMENT OF

EDUCATION

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Criminal Justice III: Investigations

Primary Career Cluster:	Law, Public Safety, Corrections and Security
Consultant:	Sheila Carlton, (615) 532-2839, Sheila.Carlton@tn.gov
Course Code(s):	5989
Prerequisite(s):	<i>Criminal Justice I, Criminal Justice II</i>
Credit:	1
Grade Level:	11-12
Graduation Requirements:	This course satisfies one of three credits required for an elective focus when taken in conjunction with other Law and Public Safety courses.
Programs of Study and Sequence:	This is the final course in the <i>Law Enforcement Services</i> program of study.
Necessary Equipment:	None
Aligned Student Organization(s):	SkillsUSA: http://www.tnskillsusa.org Brandon Hudson, (615) 532-2804, Brandon.Hudson@tn.gov
Coordinating Work-Based Learning:	If a teacher has completed work-based learning training, he or she can offer appropriate student placement. For more information, please visit http://www.tn.gov/education/cte/wb/ .
Available Student Industry Certifications:	None
Dual Credit or Dual Enrollment Opportunities:	There are no known dual credit/dual enrollment opportunities for this course. If interested in developing, reach out to a local postsecondary institution to establish an articulation agreement.
Teacher Endorsement(s):	590
Required Teacher Certifications/Training:	None
Teacher Resources:	http://www.tn.gov/education/cte/LawPublicSafetyCorrectionsSecurity.shtml

Course Description

Criminal Justice III: Investigations is the final course designed to equip students with the knowledge and skills to be successful in the sciences of criminal investigations. Students will learn terminology and investigation skills related to the crime scene, aspects of criminal behavior, and applications of the

scientific inquiry to solve crimes. By utilizing the scientific inquiry method, students will obtain and analyze evidence through simulated crime scenes and evaluation of case studies. Upon completion of this course, proficient students will be able to identify careers forensic science and criminology, summarize the laws that govern the application of forensic science, and draw key connections between the history of the forensic science system and the modern legal system. Standards in this course are aligned with Tennessee Common Core State Standards for English Language Arts & Literacy in Technical Subjects and Tennessee Common Core State Standards in Mathematics.*

Program of Study Application

This is the capstone course in the *Law Enforcement Services* program of study. For more information on the benefits and requirements of implementing this program in full, please visit the Law, Public Safety, Corrections and Security website at <http://www.tn.gov/education/cte/LawPublicSafetyCorrectionsSecurity.shtml>.

Course Standards

Scope and Development of Forensic Science

- 1) Articulate important historical events and contributors impacting the evolution of forensic science in the United States. Use a timeline or other graphic to illustrate the major developments from the 16th century to today, citing specific textual evidence from textbooks, online and print journals, and other websites. Include any legislation that mandates the practice of forensic science. (TN CCSS Reading 1; TN CCSS Writing 2, 9)
- 2) Define the term Criminalistics. Research a case study that involved a criminalist and report on how his/her involvement in the case made a difference in the outcome. Cite evidence from textbooks, online and digital professional journals, and case studies to support claims. Include not only physical evidence analysis but also the application of physical and natural sciences. (TN CCSS Reading 1, 2, 6, 8; TN CCSS Writing 4, 8, 9)
- 3) Describe the eleven sections of forensic science as defined by the American Academy of Forensic Science, and discuss associated laws that guide scientific work in forensics. Develop a visual or graphic presentation to explain the roles and functions of each and relate to law and public safety careers studied in previous courses. (TN CCSS Reading 1, 4; TN CCSS Writing 6, 9)
- 4) Develop an argumentative essay that makes a claim about the influence of media on the practices of forensic science, citing a specific trial and the investigation leading up to it. Discuss the differences between the gathering and presenting of crime scene evidence and the depiction of that system in movies and television. Develop claim(s) and counterclaim(s) without prejudice, supplying data and text-based evidence from sources consulted. (TN CCSS Reading 1, 2, 8, 9; TN CCSS Writing 1, 4, 9)
- 5) Citing information found on websites in the forensic links section of the American Academy of Forensic Science, news media, and legislation, describe the evolution of the modern crime laboratory. Discuss the features of present-day crime labs, including the differences between public and private. Explore how they have changed law enforcement and the conviction of



criminals, their services and capabilities, and the new or emerging technologies they use. (TN CCSS Reading 1, 7, 9; TN CCSS Writing 4, 8, 9)

Career Planning

- 6) Using the American Academy of Forensic Science and Young Forensic Scientist Forum, investigate occupations within forensic science. Demonstrate an understanding of each occupation by accurately articulating the following:
 - a. Roles and responsibilities of the position
 - b. Comparison of similar careers available in local, state, federal, and military systems
 - c. Educational, training, and certification requirements(TN CCSS Reading 1; TN CCSS Writing 7, 8, 9)
- 7) Develop a career profile for at least three occupations in forensic science, using print, online, and/or personal interview sources to capture at minimum the following:
 - a. Job description
 - b. Essential knowledge and skills needed for the career
 - c. Program or path of study to reach occupational goals, beginning with high school and proceeding through postsecondary
 - d. Licensure and credentialing requirements
 - e. Non-educational job requirements such as physical fitness tests, minimum age, and psychological evaluations(TN CCSS Reading 2; TN CCSS Writing 4, 9)

Elements of Investigation

- 8) Identify emerging technologies and techniques being utilized by law enforcement while gathering and processing evidence at a crime scene and in the laboratory. Review a current or recent court case that utilized one of these technologies or techniques. Write an argumentative essay debating if the technology could be an infringement on the defendant's rights. An example would be maintaining a database of DNA from birth. (TN CCSS Reading 2, 4; TN CCSS Writing 1, 8, 9)
- 9) Explain the law enforcement officer's roles and responsibilities at a crime scene and the elements of preserving and recording the crime scene; incorporate knowledge gained in previous courses related to search and seizure of persons, property, and evidence. Photograph, sketch, and make notes of a simulated crime scene to permanently record the scene following law enforcement acceptable standards. Document findings with adherence to law enforcement standards using acceptable terminology. (TN CCSS Reading 3; TN CCSS Writing 4)
- 10) During a systematic search of a simulated crime scene, identify physical evidence. Demonstrate the legal and acceptable methods for collecting, packaging, and preserving evidence, using the appropriate procedures and tools. (TN CCSS Reading 2, 3, 5; TN CCSS Writing 9)
- 11) Define the term "chain of evidence". Review a court case in which the chain of evidence was not followed, and explain the legal ramifications if the chain is disrupted; consider steps to prevent evidence being excluded from a case. (TN CCSS Reading 2, 4; TN CCSS Writing 9)



Physical Evidence Analysis

For each of the standards in this section, evaluate court case studies related to each concept.

- 12) Investigate the science surrounding the physical properties of matter, and explain how they are related to the role of the law enforcement officer when collecting evidence. Apply the principles of temperature, weight and mass, density, and refractive index in the context of forensic science. (TN CCSS Reading 4; TN CCSS Writing 4; TN CCSS Math N-Q)
- 13) Explain the physical composition of glass and relate the characteristics of various types such as tempered and laminated. Demonstrate the skill of identifying the classifications of glass fragments, and calculate the projectile path by examining glass fractures at a simulated scene. (TN CCSS Reading 1, 2, 3, 4; TN CCSS Math N-Q)
- 14) Examine the forensic tools used in a field sobriety test and a blood alcohol test, and describe legal guidelines that must be followed when performing each of these tests as they relate to the constitutional rights of suspects. Evaluate concepts of toxicology and metabolism of alcohol, and determine the effects of alcohol on persons of different weights, ages, and genders. (TN CCSS Reading 1, 3, 4, 9; TN CCSS Writing 4, 9)
- 15) Evaluate a death related to chemicals that can be harmful or poisonous to the human body, such as drugs or carbon monoxide. Describe the process for collecting and preserving toxicology evidence and the techniques used for detecting the type of substance. (TN CCSS Reading 2, 4; TN CCSS Writing 4, 9)
- 16) Analyze the scientific basis of tests performed on various body fluids and/or stains at a crime scene to determine their origins. Demonstrate collection of simulated body fluids from a staged crime scene to preserve and prevent contamination of the sample. Include in the demonstration compliance with OSHA standards of practice when dealing with blood and body fluids. (TN CCSS Reading 2, 3, 4; TN CCSS Writing 4)
- 17) Describe the techniques used to excavate bones from a crime scene and the methods for distinguishing human bones from animal bones. Identify the parameters for determining the age, sex, and possible ethnicity of a human skull. (TN CCSS Reading 1, 3, 8; TN CCSS Writing 4)
- 18) Review an autopsy report to determine the time and cause of death through evaluation of body temperature, rigor mortis, post mortem lividity, appearance of eyes, skin color, and presence of entomology. Document findings in an informative essay or other forensic report. (TN CCSS Reading 1, 2, 8; TN CCSS Writing 2)
- 19) Explain the scientific basis of DNA and how it is determined through forensic analysis. Debate in a written or oral presentation how DNA testing and the Combined DNA Index System (CODIS) have changed the criminal justice system, citing evidence from professional print or digital journals, case studies, court cases, or interviews with law enforcement or forensic scientists to develop claim(s) and counterclaim(s). (TN CCSS Reading 1, 2, 9; TN CCSS Writing 1, 4, 9)



- 20) Document the interpretation of a simulated bloodstain pattern, including the following information:
- Data gathered from pattern analysis concerning the violent event
 - Impact of surface texture, directionality, and angle on pattern
 - Calculation of angle of impact
 - Methods to determine the area of convergence and area of origin for impact spatter patterns
 - Whether the spatter is classified as a low-, medium-, or high-velocity impact spatter
 - How the pattern was created and distinguishing features
 - Type of spatter
- (TN CCSS Reading 1, 2, 3, 4; TN CCSS Writing 4, 7, 8, 9; TN CCSS Math N-Q)
- 21) Compare and contrast the physical and microscopic properties of human hair vs. animal hair. Demonstrate the skills of collecting and preserving hair evidence at a simulated crime scene. (TN CCSS Reading 3)
- 22) Research the history of fingerprinting and explain how its use has changed over time. Describe the fundamental principles and classifications as suggested by Sir Edward Richard Henry, Sir Francis Galton, and Dr. Juan Vucetich. (TN CCSS Reading 1, 7, 8, 9; TN CCSS Writing 4, 9)
- 23) Explain the automated fingerprint identification system (AFIS), why it was developed, and how it is currently being utilized in law enforcement. Demonstrate the procedure for detecting fingerprints, developing latent prints, and preserving developed prints. (TN CCSS Reading 2, 4; TN CCSS Writing 2, 4)
- 24) Identify the recognizable characteristics, from bullets and cartridge casings, at a staged crime scene or from a case study. Explain in a graphic presentation how these characteristics are placed in the National Integrated Ballistics Information Network and the uses of the network by local, state, and federal law enforcement. (TN CCSS Reading 2, 4; TN CCSS Writing 6)
- 25) Research the concepts surrounding bullet trajectory and its uses in criminal investigations for determining victim and suspect locations and movements at a crime scene. Prepare a professional written report summarizing this information. (TN CCSS Reading 1, 2, 3, 4; TN CCSS Writing 2, 4, 5, 7, 8, 9; TN CCSS Math N-Q)
- 26) Compare and contrast the various forensic techniques used at a crime scene and in the laboratory to determine gunpowder residue, shoe prints, tool marks, tire marks and bite marks. Provide a full explanation of each test. (TN CCSS Reading 2, 4; TN CCSS Writing 4, 9)
- 27) Identify and examine when a Forensic Psychologist served as a law enforcement consultant, served with inmates, served as an evaluator for a court case, or served as an expert witness in a trial involving mental health issues. Identify the responsibilities of the Forensic Psychologist when serving in these capacities, such as conducting psychological testing processes and procedures, conducting profiler procedures, and evaluating neurological examinations results related to abnormal psychology and the criminal brain. (TN CCSS Reading 2, 4, 8, 9; TN CCSS Writing 7, 8, 9)



Standards Alignment Notes

*References to other standards include:

- TN CCSS Reading: [Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects](#); Reading Standards for Literacy in Science and Technical Subjects 6-12; Grades 11-12 Students (page 62).
 - Note: While not directly aligned to one specific standard, students who are engaging in activities outlined above should be able to also demonstrate fluency in Standard 10 at the conclusion of the course.
- TN CCSS Writing: [Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects](#); Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-12; Grades 11-12 Students (pages 64-66).
 - Note: While not directly aligned to one specific standard, students who are engaging in activities outlined above should be able to also demonstrate fluency in Standards 3 and 10 at the conclusion of the course.
- TN CCSS Math: [Common Core State Standards for Mathematics](#); Math Standards for High School: Number and Quantity.
 - Note: The standards in this course are not meant to teach mathematical concepts. However, the concepts referenced above may provide teachers with opportunities to collaborate with mathematics educators to design project-based activities or collaborate on lesson planning. Students who are engaging in activities listed above should be able to demonstrate quantitative reasoning as applied to specific technical concepts. In addition, students will have the opportunity to practice the habits of mind as described in the eight Standards for Mathematical Practice.
- P21: Partnership for 21st Century Skills [Framework for 21st Century Learning](#)
 - Note: While not all standards are specifically aligned, teachers will find the framework helpful for setting expectations for student behavior in their classroom and practicing specific career readiness skills.

